

US EPA ARCHIVE DOCUMENT



New Jersey Green Infrastructure Forum

**RUTGERS**  
New Jersey Agricultural  
Experiment Station

**EPA**  
United States Environmental  
Protection Agency

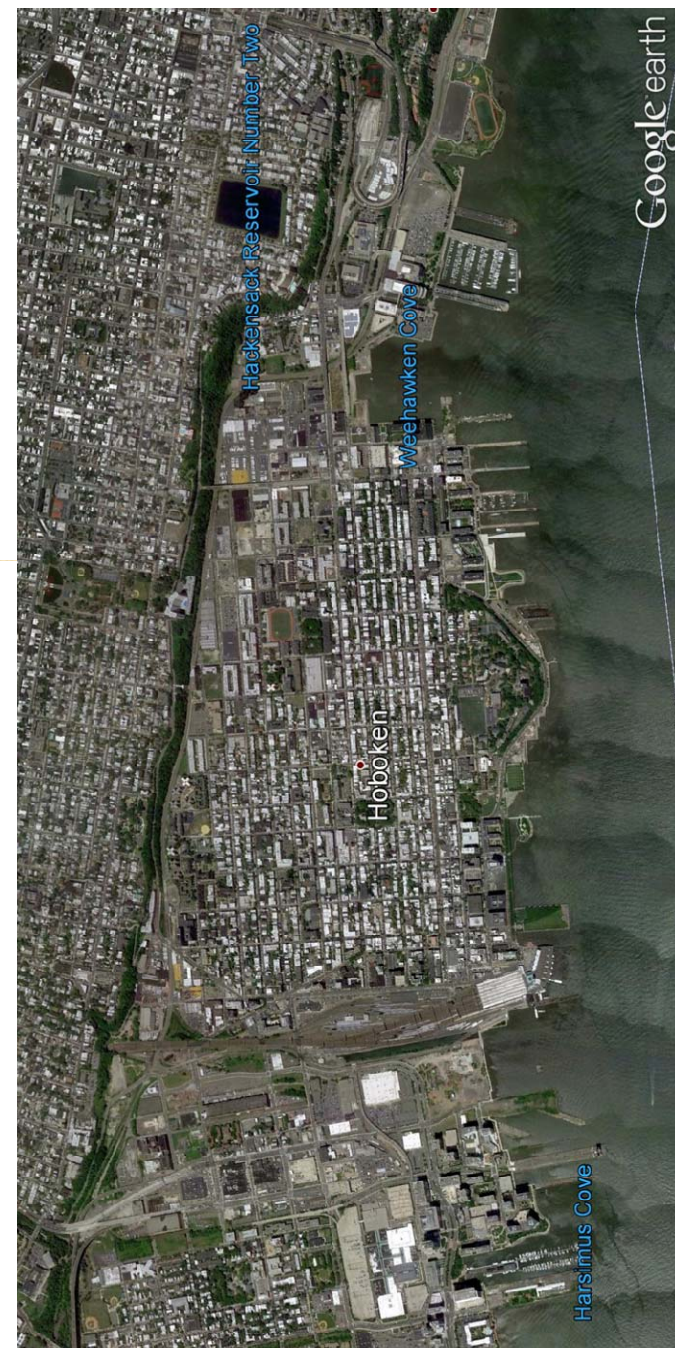
# *Funding Green Infrastructure in Your Community*

Stephen Marks, City of Hoboken, NJ

**Wednesday, July 31, 2013  
at Duke Farms in Hillsborough, NJ**

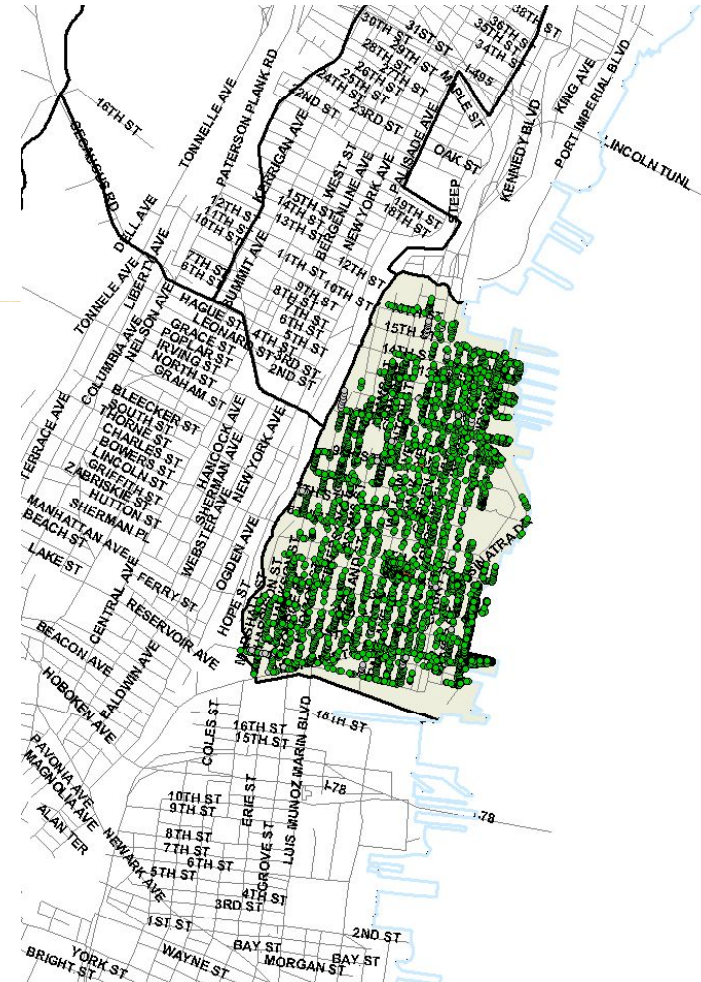
# Background

- Population: 50,005
- 1.26 Square miles
- 77.79% Impervious Coverage
- Median Age: 31.2 years old (39.0 y.o.)
- Households: 25,041
- Family HH: 37.8% (69.3%)
- Owner-occupied: 32.1% (66.9%)
- Renter-occupied: 67.9% (33.1%)
- H.S. Graduate or higher: 91.5% (87.3%)
- B.A. degree or higher: 71.6% (34.6%)
- Drove alone: 26.4% (71.6%)
- Public Transit: 56.3% (10.6%)
- Walked: 9.7% (3.3%)
- Per Capita Income: \$69,085 (\$34,858)
- Median HH Income: \$101,782 (\$69,811)
- Mean HH Income: \$137,166 (\$93,475)
- Housing Tenure/2005 or later: 58.7% (29.1%)
- Median HH Value: \$572,900 (\$357,000)
- Median HH Rent: \$1,640 (\$1,092)

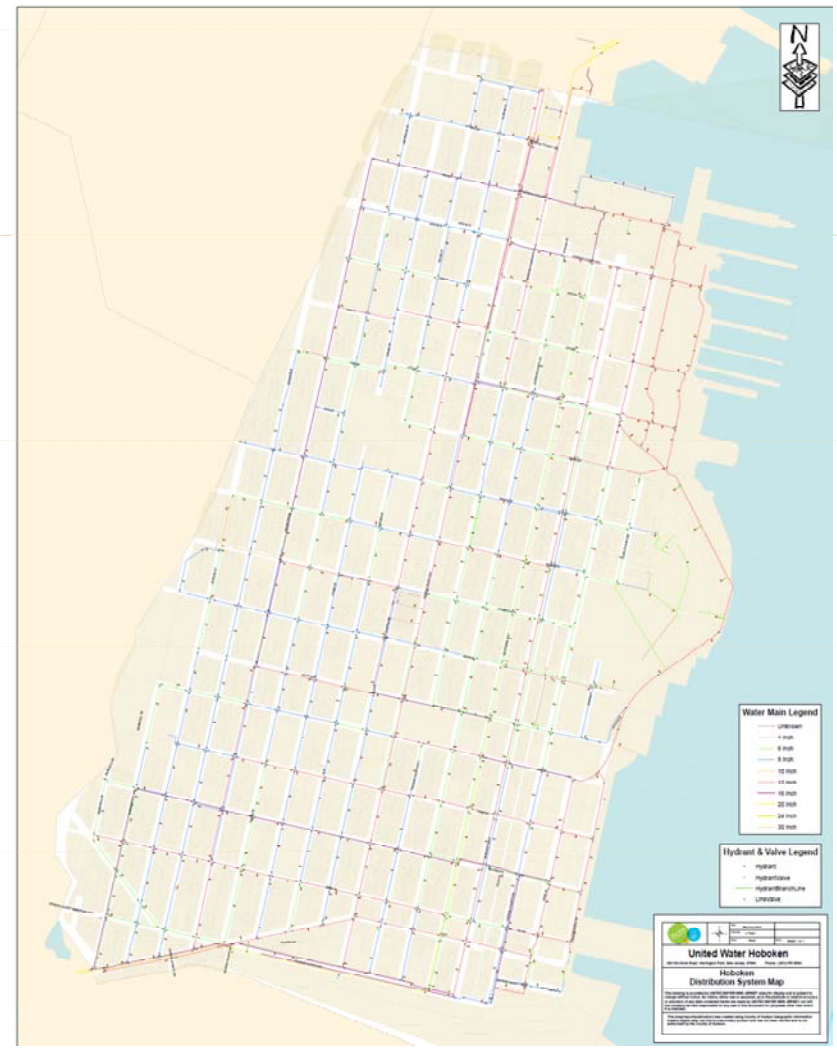




# Know Your Community



# Know Your Infrastructure (Water & Sewer)



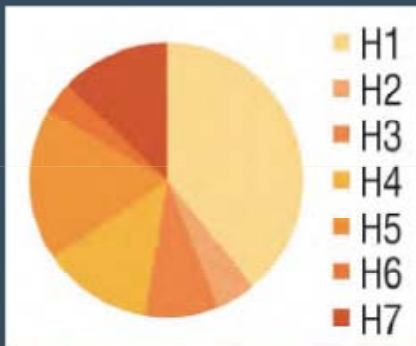


# Together North Jersey \$90,000 Local Demonstration Project

TOGETHER  
NORTH  
JERSEY

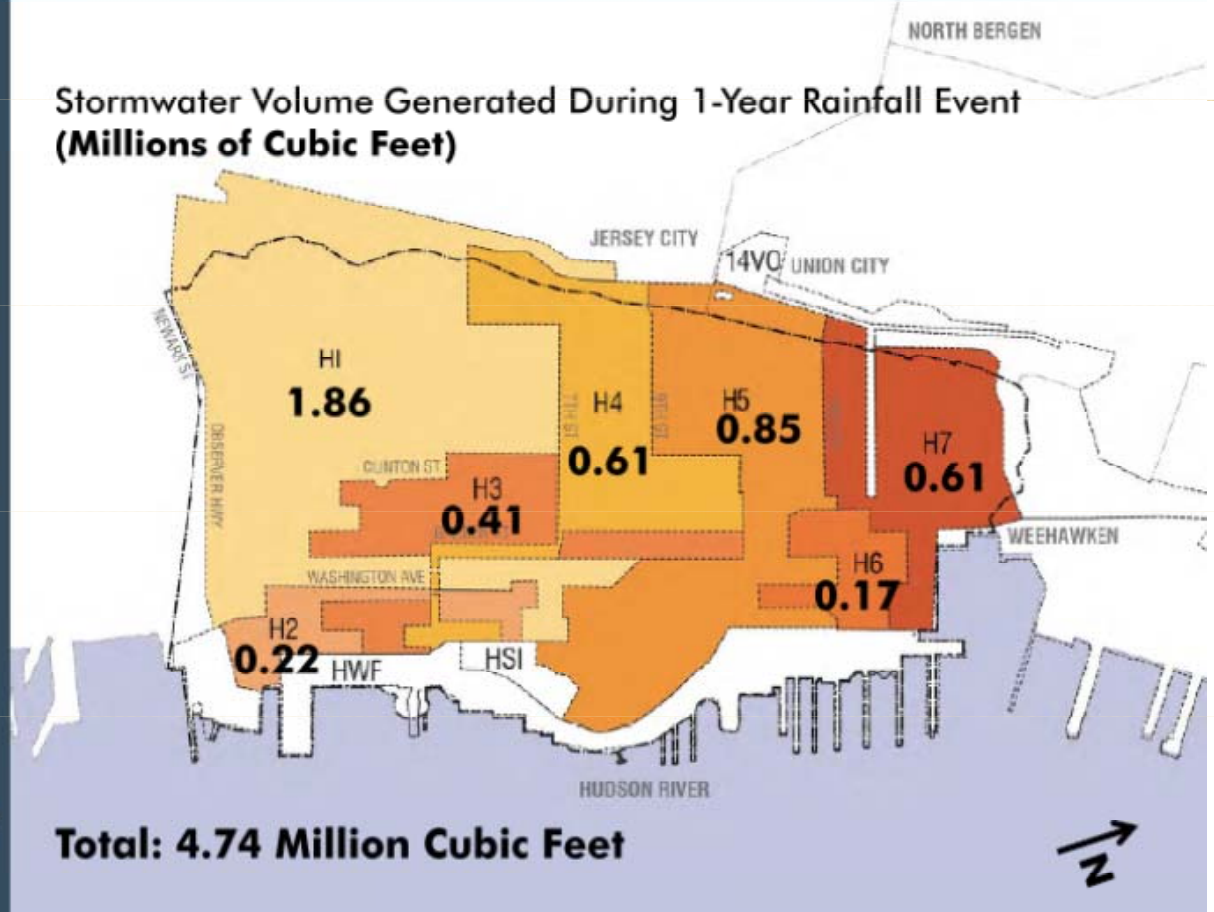
## Defining the Problems: Hoboken's Seven Main Sewersheds

Stormwater Volume  
Generated During  
1-Year Rainfall Event



- Hoboken's combined sewer system service area is organized into seven main sewersheds
- Of these, H1 handles almost **40% of the total volume** in the City

Stormwater Volume Generated During 1-Year Rainfall Event  
(Millions of Cubic Feet)



# Together North Jersey

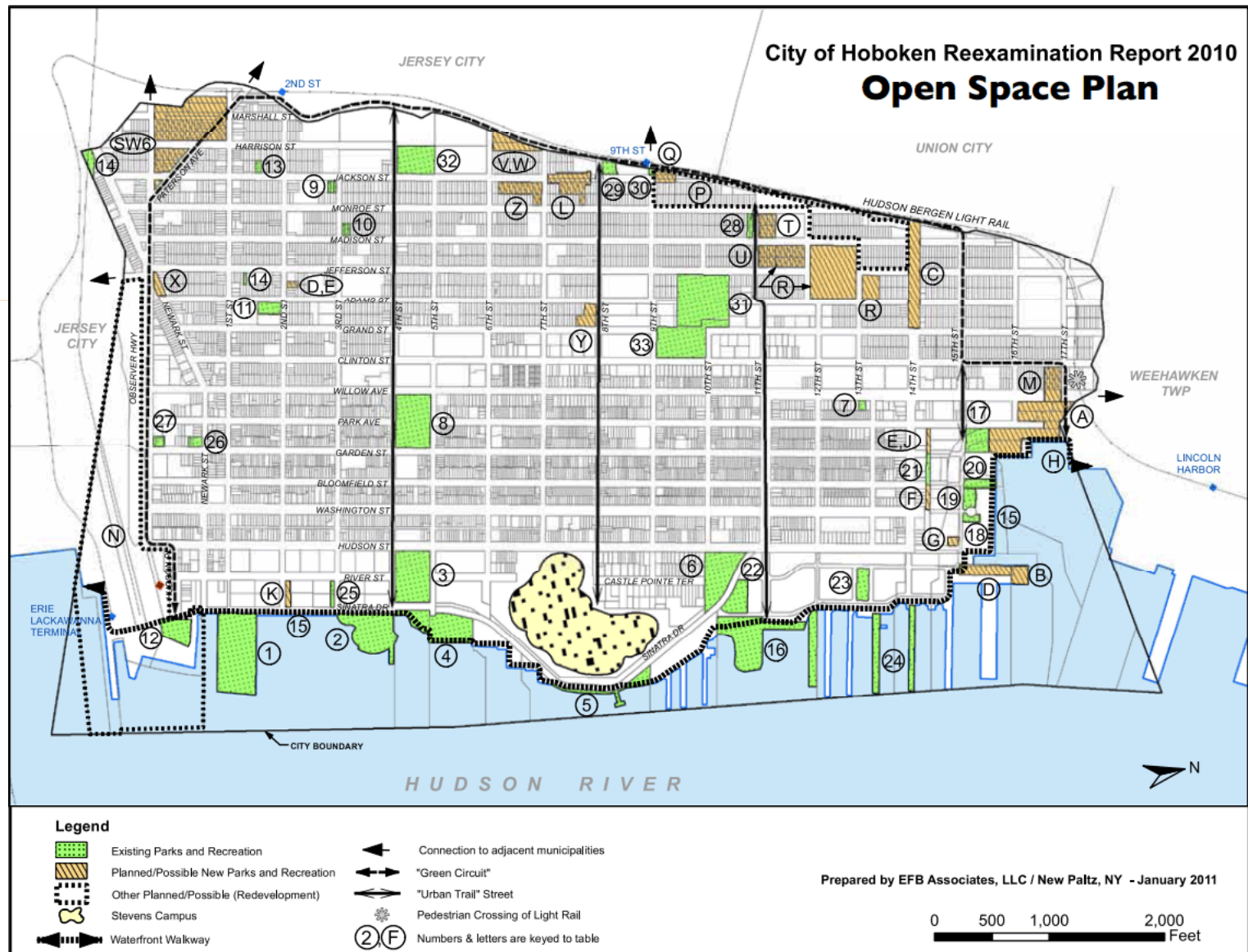
## \$90,000 Local Demonstration Project



### Targeting Solutions: Where should we strategically implement Green Infrastructure BMPs?

BMP	Drainage Areas			
	H1	H3	H4	H5
Basins or Ponds	✓			✓
Constructed Wetlands	✓			✓
Reducing Impervious Surfaces	✓	✓	✓	✓
Swales	✓			✓
Trees Planted Near Pavement	✓	✓	✓	✓
Rain Gardens		✓	✓	✓
Subsurface Infiltration or Storage	✓	✓	✓	✓
Rainwater Harvest & Reuse		✓	✓	✓
Stormwater Infiltration Planters		✓	✓	✓
Permeable Pavements		✓	✓	✓
Green Roofs	✓	✓	✓	✓
Green Streets		✓	✓	✓

# Hoboken Master Plan 2010





# I 600 Park Avenue

**\$2.7 million Total**

- \$1.7 m Green Acres
- \$300,000 County OSTF
- \$261,869 NJ HDSRF
- \$221,025 Municipal OSTF
- \$200,000 US Soccer Fdn.
- \$30,555 Municipal Budget



# Master Plan for 1600 Park and Hoboken Cove

Scale: 1"=30'-0"

# Southwest Park

- \$3 million grant from the Hudson County Open Space Trust Fund.
- Currently out to bid for professional services to design a park with green infrastructure component.
- Block 12 = 1 acre
- Zoned Industrial
- Flood Hazard Area
- Surrounded by densely populated neighborhood





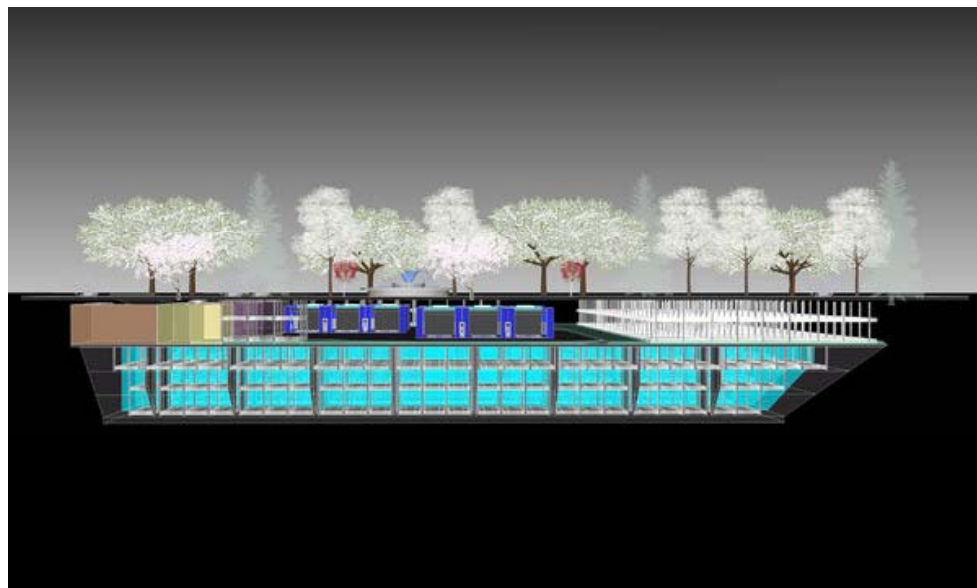
# Pino Property

- Transfer of Development Rights
- 1.05 Acre
- 18 contiguous lots
- Former private Tow Yard
- Located in densely populated neighborhood.
- Zoned Residential
- Adjacent to existing Redevelopment Area
- Property owner can build 64 units “as of right”.
- Developer seeks TDR with density bonus to give parcel to city.



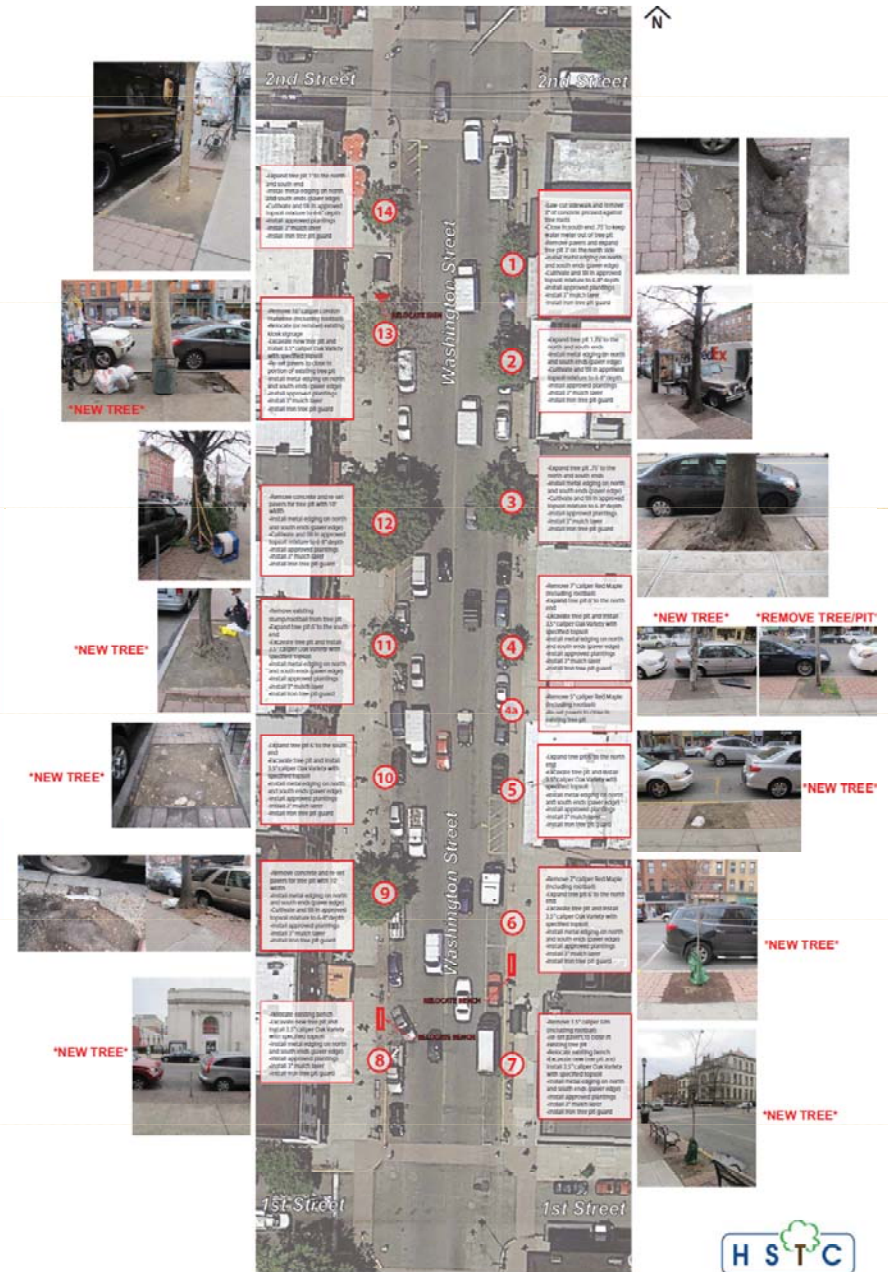
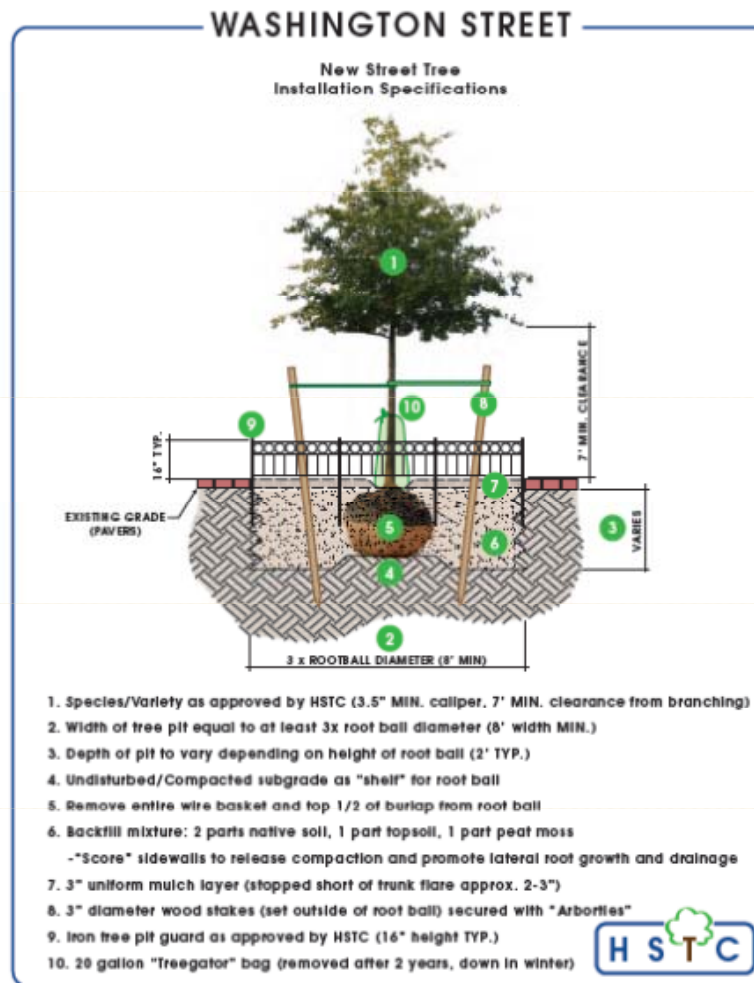
# Northwest (Cognis Henkle)

- Approximately 6.5 acres
- 2 whole city blocks (“superblock”)
- + 2 half blocks
- Zoned Industrial
- Former chemical company site
- Contaminated in need of remediation
- Located in “flood hazard area”





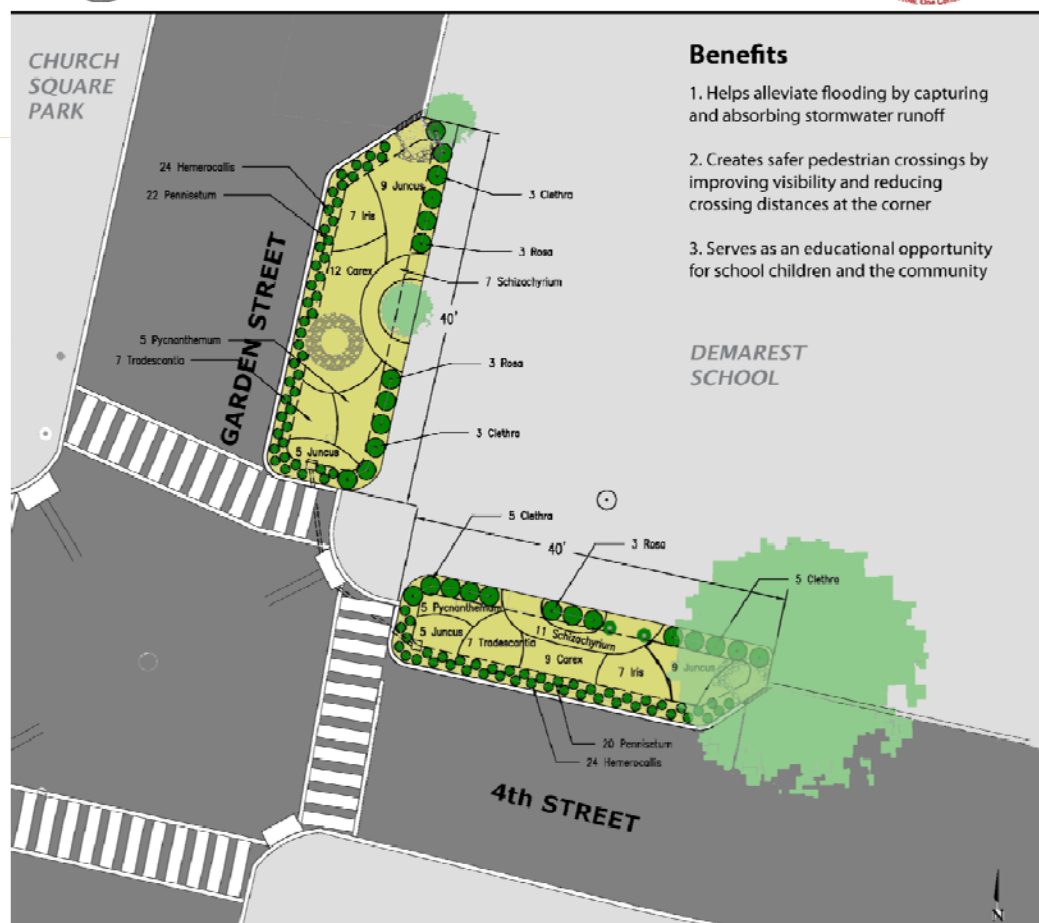
# Hoboken Shade Tree Commission \$35,000



# Hoboken Green Team + Sustainable Jersey = \$20,000 for Rain Garden



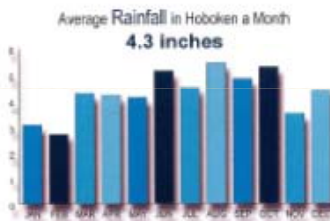
## Rain Garden Curb Extension Demonstration Project



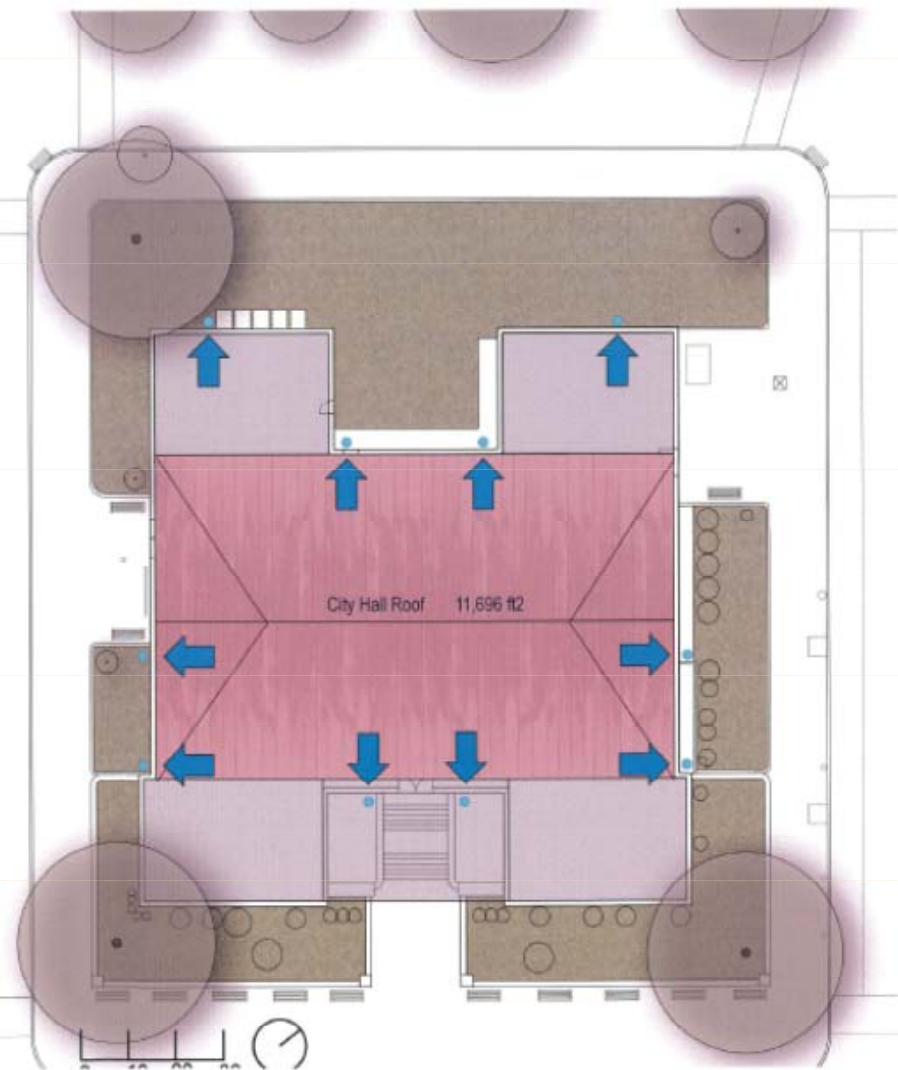
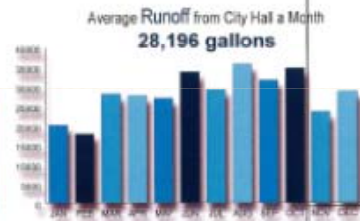


# Rutgers Dept. of Landscape Architecture by James Bykowski

Hoboken City Hall Watershed Landscape  
Existing Conditions



Data Source: "Year Used 2008 2013"  
From the web page of the New Jersey State Climatologist



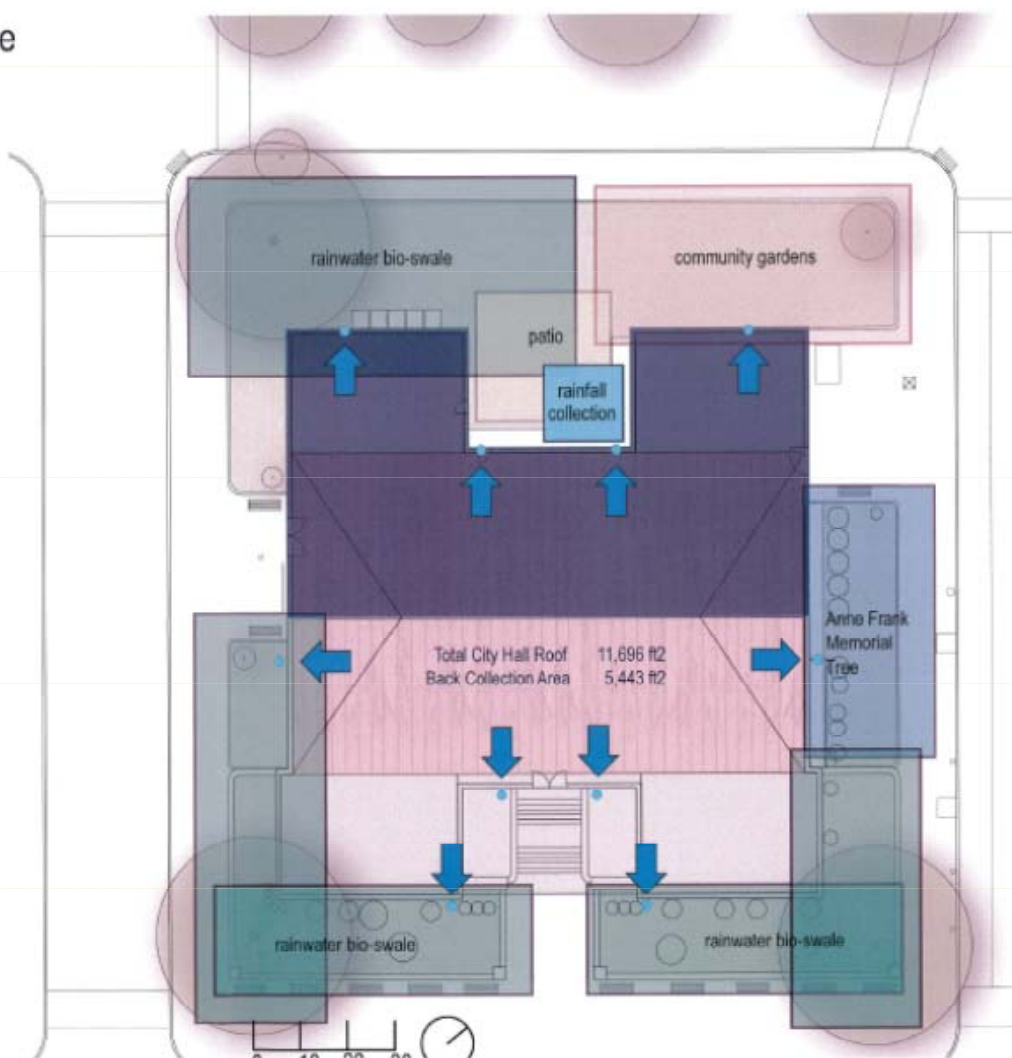
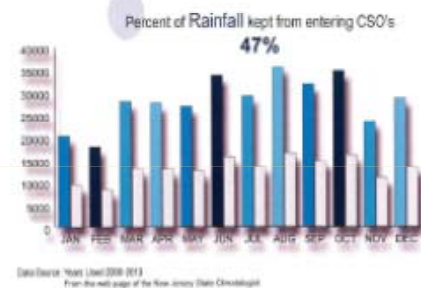
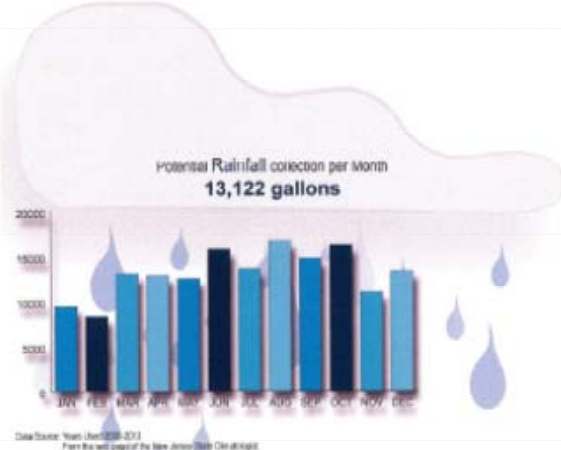
# Rutgers Dept. of Landscape Architecture by James Bykowski

## Hoboken City Hall Watershed Landscape Concept Plan

Expand community gardens for residents of Hoboken

Collect rainwater from the back half of City Hall to manage new gardens

Define a location for Anne Frank Memorial Tree





# Rutgers Dept. of Landscape Architecture by James Bykowski



Water Tower Dimensions

Size : 12' x 16'

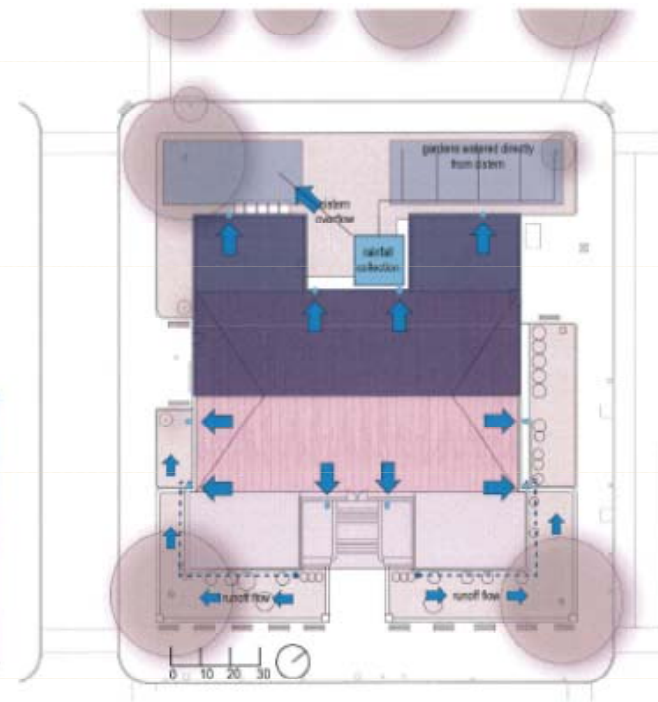
Capacity : 13,517 gallons



Existing down spout flow



Proposed down spout flow



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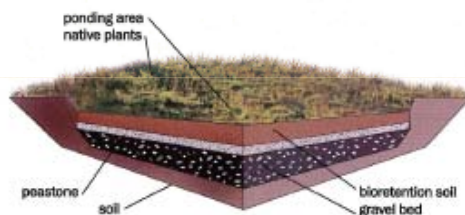


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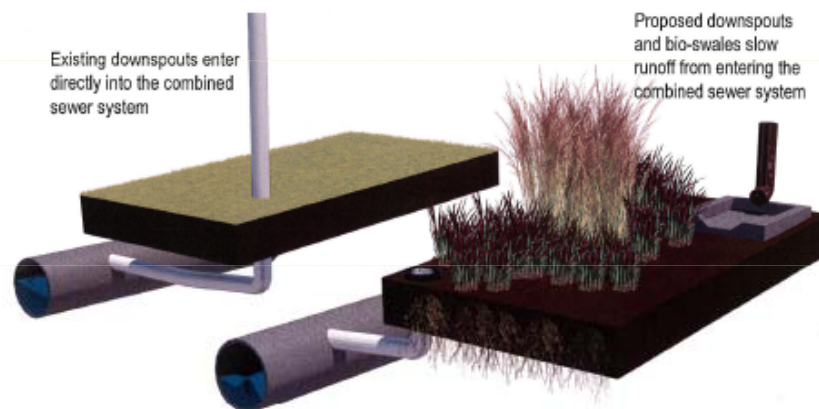
# Rutgers Dept. of Landscape Architecture by James Bykowski

Use Plants to Absorb Rainwater  
Increases Infiltration  
Reduces Total Runoff



**Bioretention swales:**  
 -Reduces stormwater runoff volume and flow rate  
 -Increases groundwater infiltration and recharge  
 -Designed to convey minor floods  
 -removes sediment from stormwater runoff  
 -Increases pedestrian city experience

Existing downspouts enter directly into the combined sewer system



Proposed downspouts and bio-swales slow runoff from entering the combined sewer system







# Global Green USA

- Technical assistance grant to advance the city's sustainability and resiliency goals
- Funded by US EPA's Building Blocks for Sustainable Communities Program.
- Two communities chosen (Hoboken and Richmond Hills neighborhood on Staten Island)



# Rockefeller Foundation



- [Re.investinitative.org](http://Re.investinitative.org)
- \$2 million to assist 8 cities design and finance green infrastructure
- Rockefeller Foundation Centennial Challenge
- \$100 million for 100 cities



**THANK YOU!**

**STEPHEN MARKS**

**ASSISTANT BUSINESS ADMINISTRATOR**

**CITY OF HOBOKEN**

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